

WHAT IS CLAIMED IS:

1. Biological photometric equipment comprising:
a light irradiating unit for irradiating a trial
subject with mixed light obtained by mixing light in a
first wavelength range having a peak wavelength at a first
wavelength and light in a second wavelength range having a
peak wavelength at a wavelength longer than the first
wavelength; and

a light receiving unit, disposed on said trial
subject, for detecting transmitted light irradiated from
said light irradiating unit and propagating into the inside
of said trial subject;

wherein a value of said first wavelength is in the
range from 650 nm to 800 nm and a value of said second
wavelength is in the range from 810 nm to 900 nm;

biological information concerning density of a light-
absorbing material or changes in the densities in said trial
subject is measured based on transmitted signals detected by
said light receiving unit;

a sum of intensity of the irradiated light in said
first wavelength range at a region X on the trial subject
irradiated with the light and intensity of the irradiated
light in said second wavelength range is kept not higher
than a prespecified value; and

said equipment further comprises a unit for changing a ratio of irradiated light intensities so that intensity of irradiated light in said first wavelength range at said region X is at least either in the range from 0.3 to 0.7 time or in the range from 1.3 to 19 times as compared to that of irradiated light in said second wavelength range.

2. The biological photometric equipment according to claim 1, wherein said equipment further comprises a unit for changing a ratio of irradiated light intensities so that intensity of irradiated light in said first wavelength range at said region X is at least either in the range from 0.3 to 0.7 time or in the range from 1.3 to 10 times as compared to that of irradiated light in said second wavelength range when a value of said first wavelength is in the range from 700 nm to 790 nm.

3. The biological photometric equipment according to claim 1 further comprising:

a unit for calculating a measurement error included in information obtained from a measured living body;

a unit for calculating a ratio of irradiated light intensities required for setting a measurement error included in information obtained from the measured living body; and

a unit for adjusting the irradiated light intensities based on a result of said calculation.

4. The biological photometric equipment according to claim 1 further comprising:

a unit for switching the ratio of irradiated light intensities from time to time between a and b, wherein sign a denotes a ratio of irradiated light in the first wavelength range against irradiated light in the second wavelength range at said region X substantially minimizing a measurement error included in information obtained from a first measured living body, and sign b denotes a ratio of irradiated light in the first wavelength range against irradiated light in the second wavelength range at said region X substantially minimizing a measurement error included in information obtained from a second measured living body.

5. The biological photometric equipment according to claim 4, wherein information obtained from said first living body relates to density or changes in density of oxygenated hemoglobin, and information obtained from said second living body relates to density or changes in density of deoxygenated hemoglobin.

6. The biological photometric equipment according to claim 1 further comprising an anchoring tool holding a plurality of said light irradiating units and said light receiving units and set on a head portion of a trial subject, wherein said anchoring tool has a plurality of

holes provided thereon for setting therein optical fibers for a plurality of light irradiating units and a plurality of light receiving units alternately provided in lattice form.